Seattle Public Utilities

Morse Lake Pump Plant Project

General Information

The Morse Lake Pump Plant Project will be announced on the City's procurement website:

https://www.ebidexchange.com/Default.aspx

Project Management Contact

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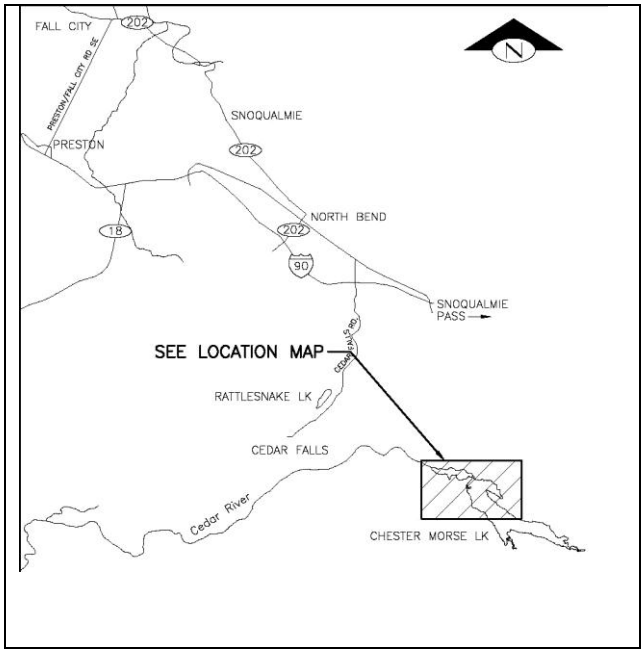
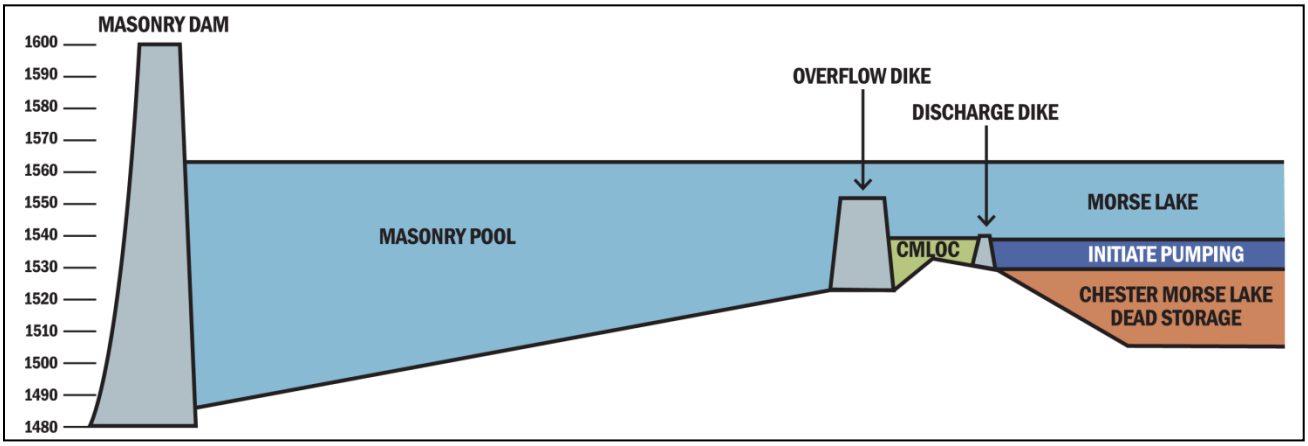


Background

Seattle Public Utilities (SPU) operates Chester Morse Lake (CML), retained by Masonry Dam. CML is the major storage reservoir for SPU's water supply system, providing up to two thirds of the region's drinking water on an average annual basis. Upstream of Masonry Dam, the Overflow Dike (OFD), Chester Morse Lake Outlet Channel (CMLOC), and Discharge Dike (DD) separate Morse Lake (upper) from Masonry Pool (lower lake) at lower lake elevations, as shown in the figure below.



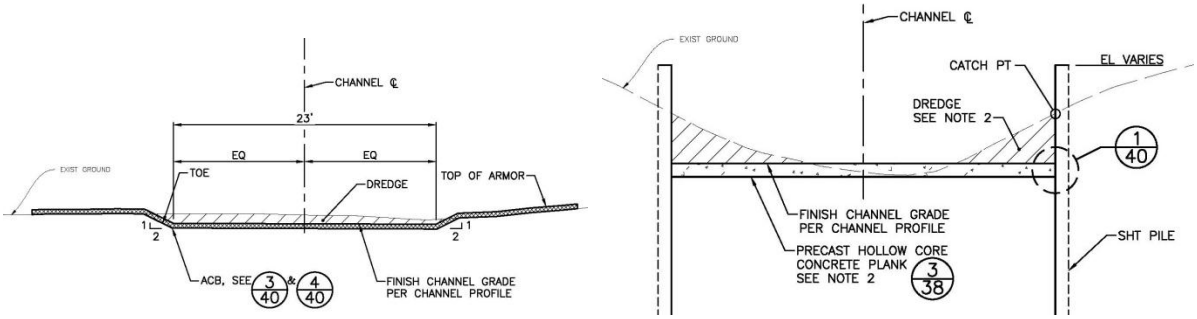
At very low lake elevations SPU utilizes two existing floating pump plants to pump water (up to 240 million gallons per day) from CML through the DD to the CMLOC and on to Masonry Pool. The existing pump plants are at the end of their service life, and the DD and CMLOC are in need of improvements to provide the desired hydraulic capacity.

Project Scope

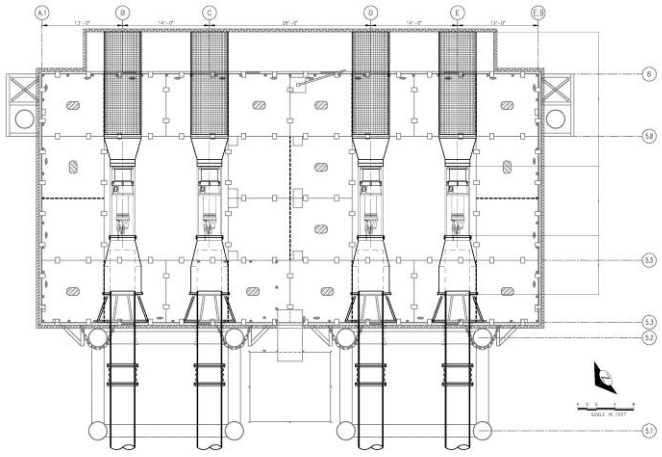
The MLPP Project will replace the existing pump plants to improve the reliability and hydraulic performance for conveying water from CML to the Masonry Pool at a maximum flow rate of 240 MGD. The Project consists of the following general elements of work:

1. General Site Improvements, Youngs Cove – Work will include limited improvements to support contractor access for heavy equipment onto floating work platforms at two separate locations, and installation of anchor piles for mooring of the floating pump platform when not in service.

2. Outlet Channel and Discharge Dike Improvements – Work will include dredging of the CMLOC to remove deposited sediments and restore capacity, sheet pile installation, channel armoring, and sheet and pipe pile installation at the Discharge Dike. Dredging volume is estimated at 6,000 cubic yards, and disposal will be at a designated area within the lake with applicable water protection measures. Channel improvements will include 750 linear feet of trapezoidal channel with articulating concrete block armoring and 550 linear feet of sheet pile wall channel with precast concrete plank armoring. Dike improvements will include sheet pile and 24" pipe pile installation.



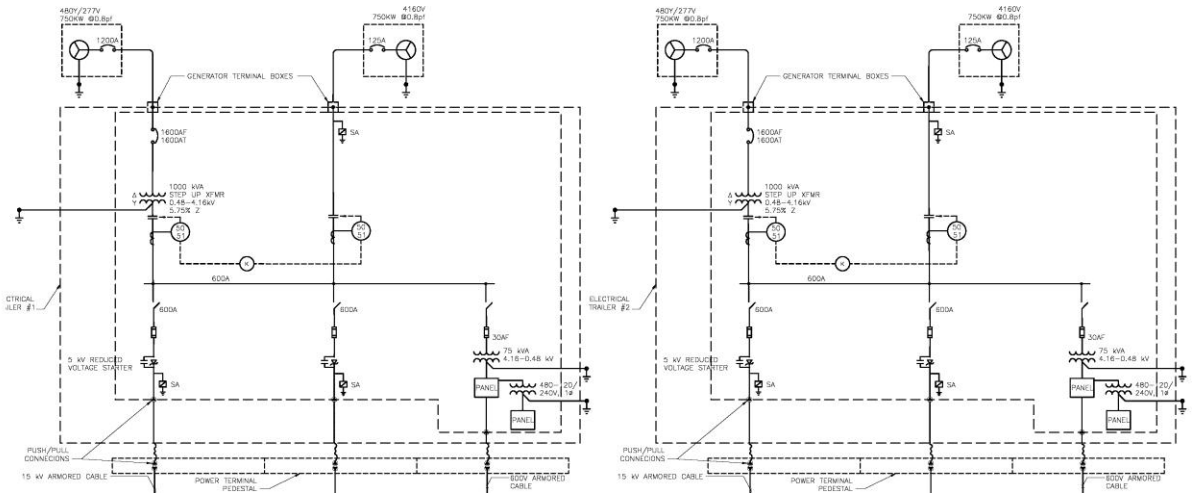
3. Floating Pump Plant and Discharge Pipelines – Work includes construction of a new floating platform constructed from modular platform units, and installation of owner furnished pump and fish screen equipment (four separate assemblies). The platform will also include an electrical enclosure building housing control and power distribution equipment.



Four 48-inch diameter high-density polyethylene (HDPE) pipelines, each approximately 550-feet long, will be submerged and will float up and down with the lake level up to a maximum lake elevation of 1552-feet. The pipelines will be located using guide piles (24" pipe). The floating pump platform and the end of the pipelines will be secured held in position with anchor piles (36" pipe). The pipelines will discharge into the CMLOC through the Discharge Dike.

Project Scope

4. Electrical Staging Area and Cable Line – The work includes two semi-trailer mounted substations will transform 480V power from rental generators (750 kW, not in contract) to 4160V power for transmission to the pump platform. The trailers will also contain other electrical equipment required to power and control the pump equipment. A new gravel staging area will be located in the upland forest for operating the generators and substation trailers. Limited tree removal and grading will be required for the road widening to create the staging area.



Six power (4x 4160V and 2x480v) cables will extend from a secured cabinet and vault at the electrical staging area to a second vault near the lake shore and on to the cables' termination/connection at the floating pump plant. The cables will be buried where they cross existing roads and will be surface mounted with a soil cover berm where they extend through a narrow 500 foot long forested corridor. From the vault near the lake shore, submarine cables will extend along the lake bottom to the pipelines, where the cables will be supported along the floating pipeline alignment (using supplemental floatation) to the floating pump plant, where the cables will be terminated at an electrical service platform (total submarine cable length is 2,800 feet).

5. Existing Facility Salvage – The work includes removal and salvage of pumps, platforms, large diameter pipe, anchors, electrical cables and related equipment associated with the two existing floating pump plants.

Project Constraints:

- Protected municipal water supply reservoir
- Seasonally variable lake elevations
- Secure watershed
- Protected cultural resource areas
- Owner furnished equipment package for pump and fish screens
- In-water pile driving work window: June 10 through September 15.
- Dredging and in-water dredge disposal with water quality protection requirements
- Maintain operability of existing pump plants through completion of commissioning
- Alpine weather (Elevation 1600 feet)

Estimated Project Value: $22.8M

Contracting Opportunities

The expected timeline for advertisement, bidding and construction is as follows:

Schedule of Events	Target Date
Advertisement	September 2014
Bids Due	October 2014
Contractor Notice to Proceed Phase I	January 2015
Contractor Notice to Proceed Phase II	April 2015
Substantial Completion	January 2016
Contract Completion	March 2016